REMARKS

Claims 4-22 are pending in this application and have been examined. Claims 4-22 stand rejected. Claims 4, 6, 8, 11, 13, 14, 17, 19, and 20 have been amended. No new matter has been introduced. Reconsideration and allowance of Claims 4-22 in view of the following remarks is respectfully requested.

The Objection to Claims

The Examiner has objected to Claims 4, 6, 11, 13, 17, and 19 because the sequence identification numbers should not be in brackets. Claims 4, 6, 11, 13, 17, and 19 have been amended to delete the brackets around the sequence identification numbers. Applicants respectfully request withdrawal of this objection.

The Rejection of Claims Under 35 U.S.C. § 112, Second Paragraph

The Examiner has rejected Claims 4-22 under 35 U.S.C. 112, second paragraph, as being indefinite. According to the Examiner, the recitation "capable of binding" renders Claims 4, 14, and 20 indefinite, and the lack of a final process step that clearly relates back to the preamble renders Claims 8-19 indefinite.

Claims 4 and 20 have been amended to replace the recitation "is capable of binding . . . of being *trans*-spliced" with "binds to . . . and *trans*-splices," and Claim 14 has been amended to replace the recitation "is capable of being *trans*-spliced" with "*trans*-splices." In addition, Claims 8 and 14 have been amended to recite that the oligonucleotide inhibits self-splicing of the Group I intron. Claim 14 has been further amended to recite that the inhibition of self-splicing of the Group I intron inhibits the growth of the organism.

The Examiner also states that in Claim 14, it is unclear what an amount of an oligonucleotides effective for growth inhibition is. Applicants respectfully submit that determining effective amounts of the oligonucleotides for inhibiting growth of an organism is

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well within the capabilities of one of ordinary skill in the art. Moreover, the specification provides ample guidance for determining effective amounts of the oligonucleotides for inhibiting growth of an organism, for example, at page 10, line 24, to page 11, line 4; page 18, line 31, to page 19, line 17; page 24, lines 16-25; and FIGURE 4).

For these reasons, applicants submit that Claims 4-22 succinctly point out and claim the subject matter which applicants regard as their invention, as required by 35 U.S.C. § 112, second paragraph. Accordingly, applicants respectfully request withdrawal of this ground of rejection.

The Rejection of Claims Under 35 U.S.C. §102(a)

The Examiner has rejected Claims 8, 9, 14, 15, 20, and 21 under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 5,869,254 (Sullenger et al.). According to the Examiner, Sullenger et al. discloses a method for splicing a target nucleic acid molecule with a separate nucleic acid molecule. Applicants respectfully disagree with the Examiner's position that Sullenger et al. anticipates the claimed invention.

Claims 8, 14, and 20, from which Claims 9, 15, and 21 depend, respectively, are directed to inhibiting self-splicing of a Group I intron. The inhibition of self-splicing of the Group I intron prevents the formation of functional, spliced RNA products (Specification, page 6, lines 6-14). In contrast, Sullenger et al. teaches methods for promoting splicing of a target nucleic acid molecule to a separate nucleic acid molecule by contacting the target nucleic acid molecule with a catalytic nucleic acid molecule including the separate nucleic acid molecule to cause formation of a functional, spliced RNA product that codes for the production of a chimeric protein with advantageous properties compared to the protein that is naturally produced from the target nucleic acid molecule before splicing (U.S. Patent No. 5,869,254, Col. 6, lines 24-31). Moreover, the target nucleic acid molecule is not a Group I intron, but a cellular nucleic acid molecule that encodes a defective protein or is deleterious to the cell (U.S. Patent No. 5,869,254,

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Col. 6, lines 47-48). For example, the target nucleic acid may code for a defective protein, and the method of Sullenger et al. may be used to splice this target nucleic acid molecule to a separate nucleic acid molecule to allow expression of a functional protein (U.S. Patent No. 5,869,254, Col. 6, lines 46-48). The catalytic nucleic acid molecule may contain a motif of a Group I or Group II intron having a cleavage and splicing activity (U.S. Patent No. 5,869,254, Col. 7, lines 4-8). Therefore, Sullenger et al. discloses the use of a molecule having a Group I or Group II intron motif to splice a target nucleic acid molecule to a separate molecule. However, Sullenger et al. neither discloses nor suggests methods for inhibiting the self-splicing of a Group I intron. Because Sullenger et al. does not teach a method for inhibiting the self-splicing of a Group I intron, it cannot anticipate Claims 8, 9, 14, 15, 20, and 21. Moreover, because Sullenger et al. does not suggest or provide any motivation for a method for inhibiting the self-splicing of a Group I intron, it cannot render obvious Claims 8, 9, 14, 15, 20, and 21. Accordingly, applicants submit that the claimed invention is patentable over Sullenger et al. and respectfully request withdrawal of this ground of rejection.

The Rejection of Claims Under 35 U.S.C. § 103(a)

The Examiner has rejected Claims 8-10, 14-16, and 20-22 under 35 U.S.C. § 103(a) as being obvious over Sullenger et al. in view of Gryaznov et al. (1994) *J. Am. Chem. Soc.* 116:3143-4. According to the Examiner, Sullenger et al. discloses a method for splicing a target nucleic acid molecule with a separate nucleic acid molecule and Gryaznov et al. teach that oligonucleotides comprising phosphoramidate linkages are more stable than oligonucleotides with phosphodiester linkages. The Examiner concludes that it would have been obvious to use oligonucleotides with at least one phosphoramidate linkage in the method disclosed in Sullenger et al. Applicants respectfully disagree.

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As mentioned above, Claims 8, 14, and 20, from which Claims 9 and 10, 15 and 16, and 21 and 22 depend, respectively, are directed to inhibiting self-splicing of a Group I intron. Sullenger et al. neither discloses nor suggests methods for inhibiting the self-splicing of a Group I intron, as described above. Moreover, Gryaznov et al. neither discloses nor suggests methods for regulating splicing, either to promote it or to inhibit it. Because there is no suggestion or motivation in Sullenger et al. or Gryaznov et al., alone or combination, to modify the methods disclosed in Sullenger et al. to inhibit self-splicing of a Group I intron, the claimed invention cannot be considered obvious in view of these references. Accordingly, applicants respectfully request withdrawal of this ground of rejection.

Conclusion

In view of the foregoing remarks, applicants believe that Claims 4-22 are in condition for allowance. Reconsideration and favorable action are requested. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone applicant's attorney at 206-695-1783.

Respectfully submitted,

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